REMARKS

Claims 1-24, 26-31, and 39-67 are pending. By this amendment, claims 1, 14, 15, 23, 27, 30, 31, 39-41, 43-45, 47, 49, 50, 52, 53, 55, 56, 58 and 59 are amended, claims 25 and 32-38 are cancelled, and claims 60-67 are added.

I. CLAIM OBJECTIONS

Claims 25 and 32 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, claims 25 and 32 are cancelled. New independent claims 60 and 61 incorporate all of the features of claims 25 and 32, respectively, including all of the limitations of their respective base claims and any intervening claims. Therefore, Applicants respectfully submit that independent claims 60 and 61, and dependent claims 62-67 which incorporate the features of cancelled claims 33-38, respectively, and which depend from claim 61, are now in condition for allowance.

II. RESPONSE TO RESTRICTION REQUIREMENT

The first Office Action rebutted Applicant's traversal of the Restriction/Election of Species Requirement because each of the groups comprise distinct inventions. Applicants respectfully traverse the Restriction/Election of Species Requirement and the first Office Action's rebuttal of Applicant's traversal based on the following embodiment similarities:

All of the identified species scan image data to generate high resolution image data, as recited in step S610 of Figure 6, in step S1610 of Figure 16, in step S2510 of Figure 25, in step S2810 of Figure 28, and in step S3110 of Figure 31.

All of the identified species identify boundary pixels, as recited in step S630 of Figure 6, in step S1630 of Figure 16, in step S2520 of Figure 25, in step S2820 of Figure 28, and in steps S3150 of Figure 31.

Four of the identified species store high resolution binary image data and values of boundary pixels, as recited in step S650 of Figure 6, in step S1670 of Figure 16, in step S2560 of Figure 25, in step S2860 of Figure 28; while the fifth embodiment similarly stores high resolution binary image data and grayscale boundary pixel data, as recited in step S3160 of Figure 31.

Four of the identified species render image using high resolution image data and values of binary pixels, as recited in step S660 of Figure 6, in step S1680 of Figure 16, in step S2570 of Figure 25, and in step S2870 of Figure 28; while the fifth embodiment similarly renders image using high resolution grayscale image data and grayscale boundary pixel data, as recited in step S3170 of Figure 31.

Three of the identified species separate interior and exterior boundary pixels, as recited in step S1640 of Figure 16, in step S2540 of Figure 25, and in step S2830 of Figure 28.

Two of the identified species binarize grayscale image data, as recited in step S620 of Figure 6, and in step S1620 of Figure 16.

Applicants respectfully submit with such substantial similarities between the different embodiments of the invention, that a search and examination of the entire application could be made without serious burden. Applicants respectfully request that the Examiner accord the Applicants the procedural and substantive due process to which they are entitled under the Administrative Procedures Act and the MPEP.

Applicants further respectfully submit that, because claims 1 and 30 remain generic to all disclosed species and are allowable over the cited reference for at least the reasons discussed below, all of claims 1-24, 26-31 and 39-67 must be examined and allowed.

Under the circumstances, withdrawal of the Restriction/Election of Species Requirement and rejoinder of claims the non-elected is warranted.

III. THE CLAIMS DEFINE PATENTABLE SUBJECT MATTER

The Office Action rejects claims 1-3, 23-24, 27, 30-31, and 39 under 35 U.S.C. §103(a) over Jozefowski (GB 2247596) in view of Smith (EP 0590923). This rejection is respectfully traversed.

The Office Action points to pages 5-7, 20-22, and Figure 2C of Jozefowski as teaching that the scanner scans the image and produces high resolution binary data and that the encoder separates the binary pixels into interior boundary pixels and exterior boundary pixels, as recited in claims 1-24 and 26-29, and as teaching separating the pixels into boundary pixels and non-boundary pixels, as recited in claims 30, 31 and 39-59. However, Applicants respectfully submit that Jozefowski does not teach, disclose or suggest separate boundary pixels into interior boundary pixels and exterior boundary pixels, nor does Jozefowski teach, disclose or suggest separating pixels into boundary and non-boundary pixels.

Instead, as shown in Fig. 3, Jozefowski discloses a frame store 32 which holds image data (page 6, lines 8-13). When creating an image, a drawing processor 31 is used to sort the various objects making up the image. The sorting is carried out in scan line order. An entry in the frame store memory is only made when a change in the image takes place. The entries in the frame store include a color/intensity value and the horizontal position at which the change takes place (see page 7, lines 14-27).

Figure 2C shows an edge which is stored and displayed on sub-pixel data in the frame store, which is used to calculate the "transparency" of each individual display pixel making up the edge image as a whole, in order to create a smooth edge image on the screen (page 20, lines 6-27). Jozefowski fails to distinguish between interior and exterior display pixels because Jozefowski views pixels as a one-dimensional array (page 21, lines 29-31), and

draws the image in scanline order. Therefore, Jozefowski has no need to separate the boundary pixels into interior boundary pixels and exterior boundary pixels, as recited in claims 1-24 and 26-29, or separating the pixels into boundary pixels and non-boundary pixels, as recited in claims 30, 31 and 39-59. Therefore, it is respectfully submitted that Jozefowski fails to teach or suggest all of the recited features of claims 1-24, 26-31, and 39-59.

The Office Action points to Smith as disclosing a scanner that scans an image and produces image data, as recited in claims 1-24 and 26-29, and as disclosing scanning an image to obtain scanned image data including text or lineart data as recited in claims 30, 31 and 39-59. The Office Action asserts that it would have been obvious to one having ordinary skill in the art to use the scanner of Smith in Jozefowski's system in order to easily create an image to be manipulated. However, Applicants respectfully submit that Jozefowski already includes a means to input data into the frame store 32 (see, for example, page 12, lines 4-5). Therefore, the system of Jozefowski is already complete in and of itself, and thus has no need for the scanner of Smith. As such, the asserted combination of Jozefowski and Smith was made using improper hindsight reconstruction of the references.

In view of the foregoing amendments and remarks, Applicants submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-24, 26-31, and 39-67 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

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